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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,645	02/16/2000	Sandor L. Barna	08305/064001/99-02	7363

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EXAMINER

TILLERY, RASHAWN N

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/505,645

Applicant(s)

BARNA ET AL.

Examiner

Rashawn N Tillery

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-8 is/are allowed.
- 6) ☒ Claim(s) 1-4,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Guidash (US6307195).

Regarding claim 1, Guidash discloses, in figure 9A, an active pixel sensor comprising:

at least one pixel comprising a photodetector that outputs an output level indicative of incoming light;

a sample and hold element (SHS, SHR1, SHR2) electrically connected to the pixel operating to store the output level during a readout operation;

an adjusted voltage source (V_{th}), comprising a node that provides an adjusted saturation voltage; and

a comparator having a first input node operatively connected to the sample and hold element, a second input node electrically connected to the adjusted saturation voltage node, and an output node, the comparator operating to output a signal

indicating whether the adjusted saturation voltage exceeds the output level from the photodetector (see col. 11, lines 21-63).

Regarding claim 2, Guidash discloses, in figure 9A, a latch including an input node and an output node, the input node operatively connected to the output node of the comparator operating to store a saturation flag in response to the adjusted saturation voltage exceeding the output level from the photodiode (the examiner notes that the 1 bit output of the comparator is the "flag;" the 8 bit output is the signal-reset value; thus, if the flag is "high," a maximum value is used instead of the "as-is" value (see col. 11, lines 21-40)).

The examiner further notes, regarding the storage of the saturation flag, that since the flag is used later to determine what the final output signal is, it is inherent that the flag is stored; otherwise, it's value would not be known.

Regarding claim 3, see claim 2 above.

Regarding claim 4, see claim 1 above.

Regarding claim 9, Guidash discloses, in figure 9A, a method for flagging an oversaturated pixel in an active pixel sensor array, the method comprising:

reading a signal voltage from a pixel;

comparing the signal voltage to an adjusted saturation voltage (see claim 1 above); and

storing a saturation flag in response to the adjusted saturation voltage exceeding the signal voltage (see claim 2 above).

Regarding claim 10, see claims 1 and 2 above.

Allowable Subject Matter

1. Claims 5-8 are allowed.

Regarding claim 5, the prior art does not teach or fairly suggest an active pixel sensor comprising at least one pixel, a sample and hold element, an adjusted saturated voltage source, a comparator, a latch, a select transistor, a differencing element, an ADC, a digital output selector comprising a detector and a switch operating to switch the difference digital value on the output node to a maximum digital value in response to the detector detecting a saturation flag.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cho, Lin et al, Kindo et al, Rumreich et al, Gowda et al, O'Connor and Kozlowski et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

RNT
August 25, 2003


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600